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AGRICULTURAL MARKETING

vital link between **FARMER and CONSUMER** +

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Marketing Economics Division

Economic Research Service

This publication is a product of Project 64: Changes in Agricultural Marketing—a review and evaluation of agricultural marketing in the United States made in 1964 by the staff of the Marketing Economics Division. It was prepared by Robert E. Freeman, Marketing Economics Division, and Elma E. Van Horn, Office of Management Services.

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AGRICULTURAL MARKETING

Vital link between farmer and consumer



Agricultural marketing is the vital link between farmer and consumer—and the servant of both.

This complex of people, agencies, and functions takes a product at the farm gate and delivers it to the consumer—in the form, at the time, and at the place he wants it.

It adds value to the product by making it more useful, more desirable, or more accessible.

A Vast Industry

Measured by any yardstick, agricultural marketing is a vast industry.

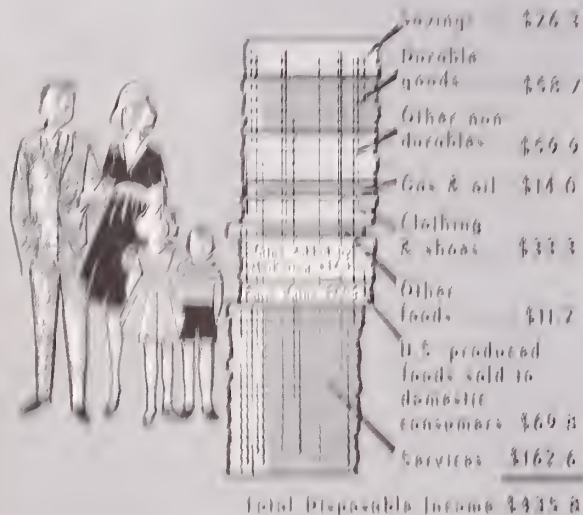
Dollar Value

Agricultural marketing is in the multibillion-dollar class.

Chart 1 shows the value of one big part of it—food marketing to consumers in this country. Note that marketing made the final products more than three times as valuable as the raw foods.

chart 1

Consumer expenditures in 1964 (\$ bil.)



For most nonfood products, marketing adds even more value, chiefly because these items are highly processed. For textiles, leather products, tobacco, and alcoholic beverages marketed to consumers in this country, marketing value was \$30.7 billion in 1964. Total cost to the consumer was \$39.6 billion. Farm value of the raw products was \$2.6 billion; excise taxes amounted to \$6.3 billion.

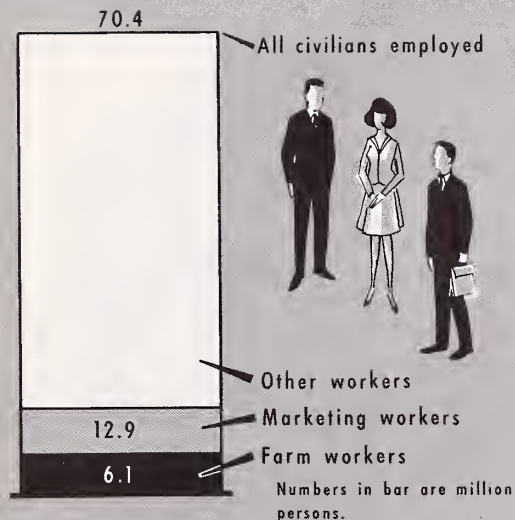
For all other farm products—about one-fifth of total production—there is no estimate of value added by marketing. These are products exported and those marketed as minor ingredients of such manufactured items as soap, plastic, and auto tires.

Numbers Employed

Agricultural marketing reckons its workers in millions. Nearly one-fifth of all the civilians employed in this country are engaged in marketing, full or part time.

chart 2

Size of agricultural marketing force, 1964



Scope of Operations

Marketing provides myriad services, which are performed by the six segments of the industry. These segments and the kind of services they perform:

ASSEMBLY, gathering raw products at one point.
PROCESSING, making the raw product more marketable by various kinds of treatment or manufacture.

WHOLESALE, transferring products from assemblers or processors to retailers, restaurants, and institutions; usually involves provision for storage of large quantities.

RETAILING, selling the product to the consumer.

EATING PLACES, which sell or provide ready-to-eat food to the consumer.

TRANSPORTATION, moving the product from point to point throughout the marketing process.

Private enterprise firms, which include cooperatives, provide most of these marketing services. Their operations are guided by the pricing system and profit mo-

chart 3

Anatomy of food marketing

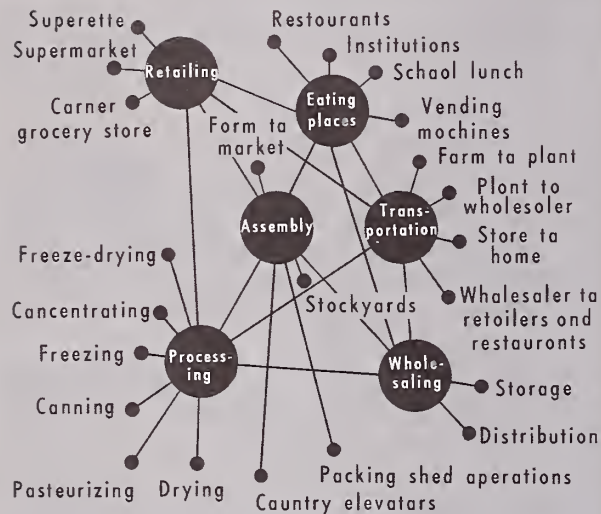
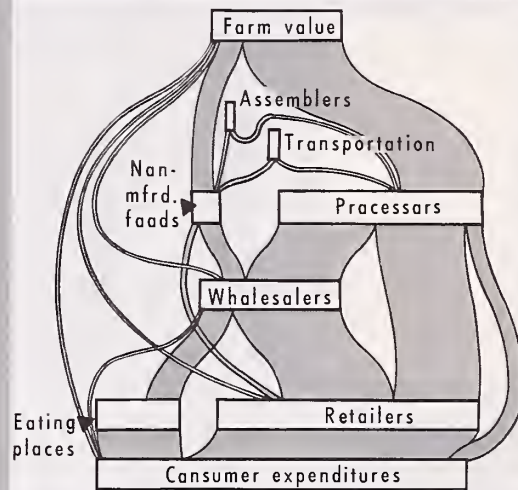


chart 4

Trade channels for farm food products



tive. Governments—State, Federal, and local—provide supplementary services that make marketing easier or better.

Chart 3 at left shows in general how these segments of the industry relate to each other in the marketing of food.

Chart 4 shows the main routes farm food products take on their way to the consumer. Most farm foods are processed. Nearly one-half the processed foods bypass the wholesaler, go directly to retailers or consumers. Consumers spend nearly one-third as much at eating places as at retail stores.

A Changing Industry



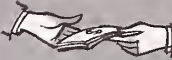


Agricultural marketing has changed constantly over the years. Some of the most far-reaching and significant changes have occurred since World War II.

One big overall change has been the great increase in value added to farm products by marketing.

Also, compared with 1947-49 the marketing system today handles a much greater volume and variety of

chart 5

Overall changes in food marketing, 1947-49 to 1964

1947-49		1964
\$18.3 bil.	Products marketed, form value 	\$22.5 bil.
\$22.5 bil.	Value added by marketing 	\$47.3 bil.
\$40.8 bil.	Consumer expenditures 	\$69.8 bil.
4.3 mil.	Marketing workers* 	4.7 mil.
146.0 mil.	Consumers (U.S. population) 	192.1 mil.

*On full-time-equivalent basis.

products, employs more workers, and serves many more consumers.

On the whole, separate assemblers and wholesalers have become less important; the processing, retailing, food service, and transportation segments have grown stronger.

Changes in Assembly

Today there are only a few products for which there are firms primarily doing business as assemblers. More and more, raw products move directly from the farm to the processor.

Separate assembling agencies today include: Milk and cream receiving stations; egg-sorting plants; fruit and vegetable packing and sorting sheds; country grain elevators; livestock terminals and country assembly points.

Examples of changes taking place within the assembly agencies: Cooperative grain elevators have been doing an increasing proportion of the total business; country livestock assembly points are gaining at the expense of terminal stockyards.

Separate fruit and vegetable assemblers handle a smaller proportion of the total, a result of more direct and specification buying by retail chains.

Changes in Processing

Postwar changes in processing have been among the greatest in the marketing industry.

Total Output Has Increased Tremendously

Increase in the amount of food processed has been greater, relatively, than the increase in population. Poultry and frozen fruits and vegetables have gained the most, bakery and grain mill products the least.

The extraordinary increase in output of frozen fruits and vegetables was due to the success of a set of new freezing processes.

The great increase in processed poultry was due almost entirely to increased broiler output, which was the result of a combination of circumstances.

Geneticists developed breeds of birds that gained more per pound of feed.

Producers mechanized production.

Feed companies provided contract financing of production.

The food trade used USDA inspection and grading services to facilitate marketing. It also adopted a low-profit-margin policy in selling; today broilers are much cheaper in relation to red meats than poultry was 15 years ago.

Plants Have Grown in Size, Decreased in Number

Fewer and bigger is the general trend in food processing plants.

Two developments are responsible for two exceptions to the trend.

The number of meatpacking plants has increased because operations have been decentralized; poultry-dressing plants have increased because of a dramatic increase in volume processed.

chart 6

Processed food output and population

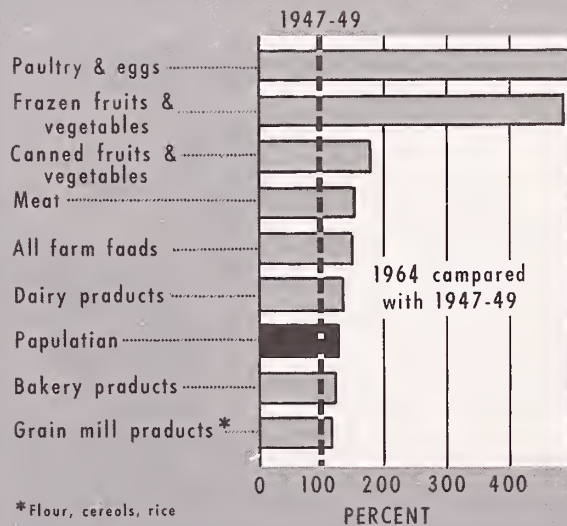
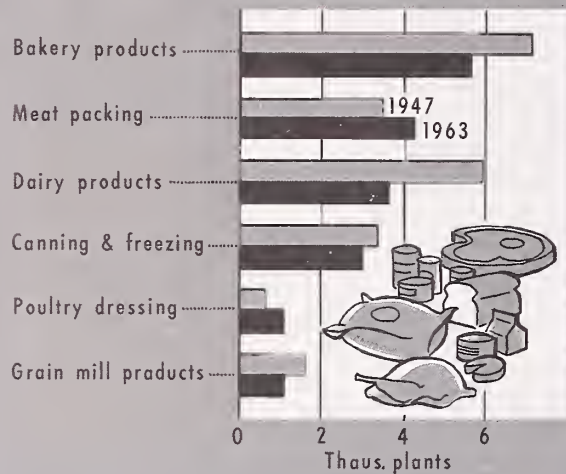


chart 7

Number of food processing plants, 1947 and 1963



Innovations Have Been Rapidly Effectuated

Innovations have been prime prompters of processing changes. Finding the new—including new applications of the old—then using it to advantage has spurred output growth. Innovations have also helped processors cut costs and turn out products more appealing to consumers.

Some major innovations . . .

- Widespread adoption of labor-saving machinery and techniques, such as machine chicken pluckers and evisceraters.
- Use of more efficient processes and methods. An example: The shift to the screwpress and solvent methods of extracting oil from oilseeds, which has resulted in greater yields.
- Introduction of new products and modifications of old products. Examples: Frozen foods, instant powders, prepared mixes, filter-tip cigarettes, free-flowing flour, noncaking brown sugar, wash-and-wear and stretch cottons, nonshrink woolens.

- Use of new kinds of packaging, such as paper containers for milk, plastic film wraps for frozen foods and meat, easy-to-open metal cans.
- Organizational changes. Example: Numerous smaller slaughter plants handling only one or two kinds of livestock have replaced many of the large centralized terminal plants that handle all kinds of livestock.

Processors Are Closer to Farmers

More and more, processors are going directly to farmers to get the quantity and quality of raw products needed. Some farmers key their production to processor specifications.

Changes in Wholesaling and Retailing

More aggressive merchandising methods have been adopted by both wholesalers and retailers in postwar years. For example, both have steadily increased their emphasis on advertising.

Also, both wholesalers and retailers are making greater use of automation in warehousing operations—in item selection, ordering, billing, and inventory control.

In retailing, supermarkets and discount houses are accounting for an increasing share of sales of agricultural products.

Food wholesaling has been adapting to changes in food retailing.

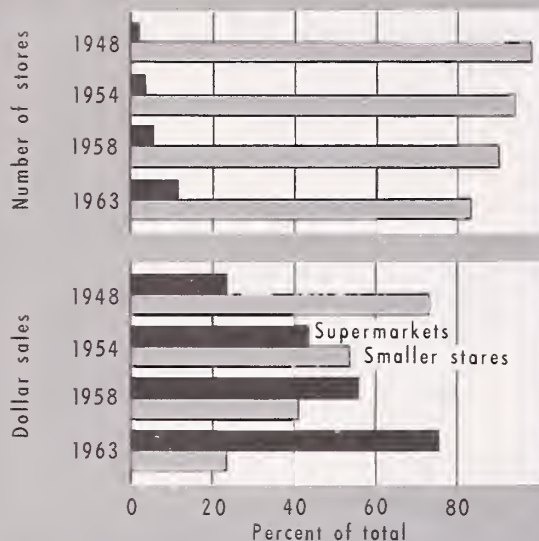
Independent wholesalers serve the rapidly growing affiliated independent grocery store chains, the unaffiliated groceries, and most of the mushrooming trade in away-from-home eating. Large corporate chains usually have their own warehouse facilities and do their own wholesaling.

Affiliated independent chains are of two kinds—"voluntary" and "cooperative." A voluntary chain is one organized by a wholesaler. A cooperative chain consists of stores that jointly operate their own wholesale and warehouse facilities.

The rise of the supermarket has been the most dramatic postwar change in food retailing. These stores—

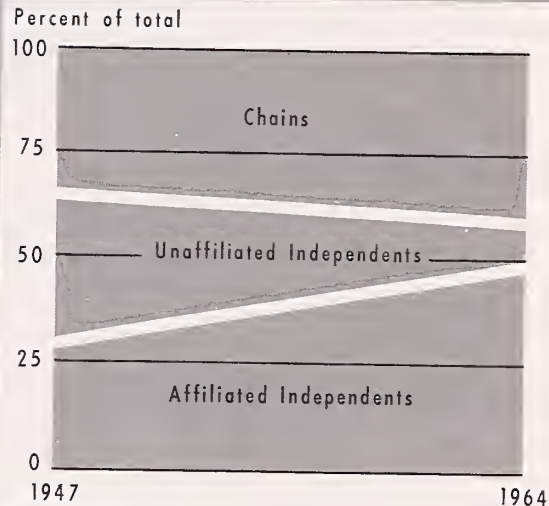
**chart
8**

**Supermarkets and
smaller stores**



**chart
9**

**Grocery store sales by
type of ownership,
1947-64**



each of which has at least one-half million dollars in sales per year—now account for three-fourths of all grocery sales. They make up only 12 percent of the number of grocery stores.

In 1948, supermarkets accounted for only 26 percent of grocery sales and made up 2 percent of the stores.

A second major development in food retailing has been the rapid growth of the affiliated independent store chains, as measured by share of total food sales. The unaffiliated independent stores have sold a decreasing share. The share of the large corporate chainstores has remained about the same.

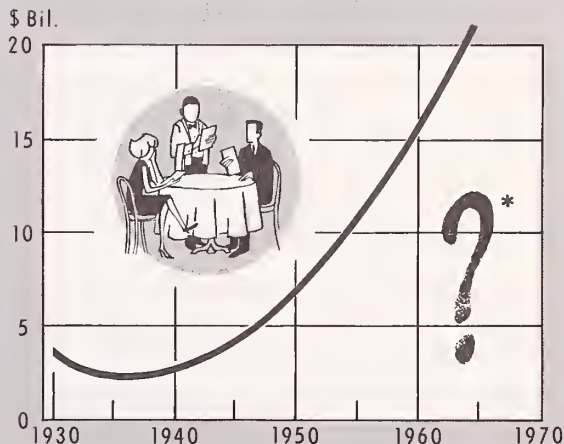
Two kinds of grocery items for which sales have increased notably in postwar years are food sold under the retailer's private brand and convenience foods.

Changes in Away-From-Home Eating

One of the most obvious—but least documented—postwar marketing changes has been the great increase in away-from-home eating, chiefly at restaurants.

chart 10

Away-from-home eating



*Data on away-from-home eating are sketchy and varied. The composite trend line shown here was derived from data from several sources.

An estimate based on data from several sources, including the food trade, is that more than \$21 billion was spent on food away from home in 1964. Probably about three-fourths of the 1964 total was spent in restaurants. The remainder was the value of food served at hospitals, schools, and other institutions and food dispensed by vending machines.

Today, well over half the total value of food eaten away from home represents the cost of preparing and serving food at restaurants and institutions.

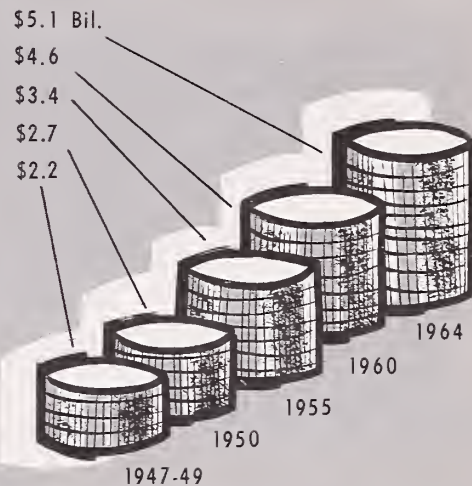
Changes in Transportation

Because many agricultural products are bulky and are shipped long distances, transportation is an essential part of their marketing. In postwar years, the value of this essential service has continued to increase.

The total transportation bill has risen steadily—mostly because of increases in volume of products handled and in distance covered. Until 1958 the continuous

**chart
11**

Food transportation bill



rise in railroad freight rates also contributed to the increase.

Today most of the transportation of agricultural products is handled by railroads and motortrucks. Since 1947-49 the bill for these two forms of transport has risen $2\frac{1}{2}$ times in amount but only about 14 percent as a share of the total marketing bill.

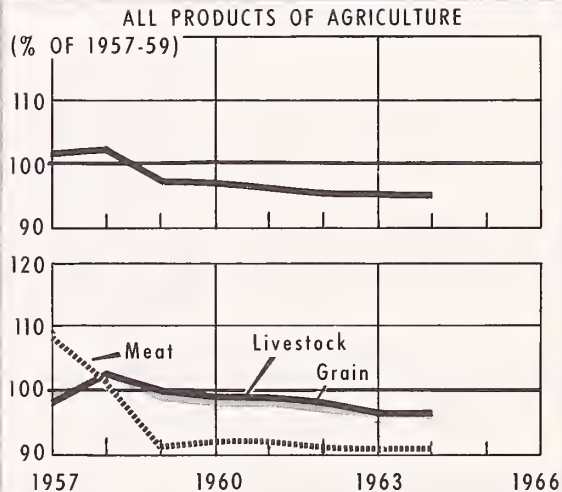
Each transportation dollar today buys better and faster service because railroads and trucks have improved their facilities for moving agricultural products and their methods of handling them.

Railroads have shifted from steam locomotives to the more efficient diesel engines, improved traffic control, developed special cars to transport certain kinds of products.

After a long continuous rise, rail rates turned down in 1958. Rates for meat fell earlier and further than other rates—one reason for locating packing plants closer to production areas. Rail rate reductions were prompted by increased efficiency of operation and increased competition from motortrucks and barges.

chart 12

Rail freight rates



An outstanding development is the mechanical refrigerator car for transporting perishable food, first used commercially in 1949. Today such cars can maintain constant temperatures ranging from 70° to below 0° F. Another successful innovation is the “piggyback” handling of loaded truck trailers on railroad flatcars.

Motortruck transportation has grown and expanded with the highway system. As more safety engineered, high-speed highways are completed, truck transportation will continue to improve. Delivery time can be reduced. And larger loads can be carried because larger trailers or two trailers instead of one can be pulled by one power unit.

Trucks also have developed refrigerated trailers and other special units to meet specific needs of shippers.

How Farmers and Consumers Have Changed Marketing

Many marketing changes are responses—direct or indirect—to farm and consumer changes.

Greater Farm Output, More Consumers

Both farm output and population have increased about one-third since 1947. Obvious result: A greater volume of marketing.

The increase in total farm output has resulted almost entirely from an increase in productivity. Increased productivity has resulted because farmers have more and more applied the findings of science to their work.

Farmers have mechanized operations . . . made greater and better use of fertilizers, pesticides, and other farm chemicals . . . adopted better cultural practices in crop growing . . . improved management and breeding of livestock.

Farmers More Specialized

More and more, farmers are specializing in producing only a certain product or products. This increasing

specialization has resulted in the need for more transportation and often for more processing and packaging.

Farmers More Concerned With Marketing

In an effort to improve their incomes, farmers have been taking a more active interest in marketing.


They have been selling a greater share of their products through their own cooperative associations. This share is now up to 25 percent.

They have been putting more of their own money into product promotion by various commodity organizations; this money goes into advertising, educational programs, and research. In 1962, farmers spent nearly \$86 million for this purpose.

The plain fact behind farmers' increased interest in product promotion is this: As farmers have become more productive, they have not been rewarded financially in proportion. Instead, total net farm income has gone down. (See chart 14.)

**chart
13**

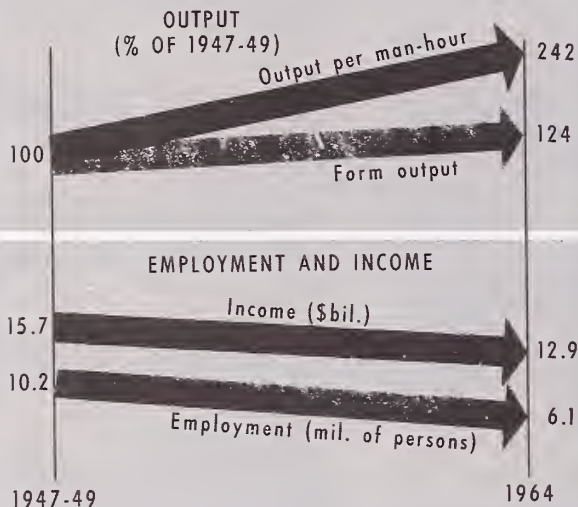
Farmers' investment in product promotion, 1958 and 1962 (\$ mil.)



	1958	1962
Fruits	20.5	29.5
Meats and livestock	3.4	6.1
Natural fibers	3.5	4.8
Poultry and eggs	2.3	4.6
Vegetables	2.4	2.7
Dairy	25.0	22.9
Other	9.7	15.3
	66.8	85.9

chart 14

Farm productivity, employment, and income



New Food-Consumption Patterns

Per capita consumption of different kinds of foods has shifted substantially since 1949.

Beef has gone up markedly; pork has gone down. Dry milk has gone up, fluid whole milk down. Poultry has gone up phenomenally. Canned and frozen fruits and vegetables are up, fresh down.

Changed Makeup of Population, Higher Per Capita Income


Changes in the makeup of the population have altered the needs and wants of consumers and their buying patterns. Higher per capita income has also affected buying patterns; it has, for example, enabled consumers to switch to more expensive kinds and forms of food.


Main changes in the population that have modified marketing of food.

- A greater percentage of the population is less than 14 years old than in 1947 and a greater percentage is over 65 years old.

chart 15

Per capita food consumption

REPRESENTATIVE FOODS		1949 LB.	1964 LB.	DIRECTION OF CHANGE
	Apples, fresh	25	22	→
	Citrus, fresh	48	26	→
	Potatoes	110	99	→
	Pork	68	65	→
	Whole milk	296	274	→
	Beef	64	100	↗
	Broilers	7	27	↗
	Dry milk	3	6	↗

FOOD IN DIFFERENT FORMS				
	FRUITS			
	Fresh	123	89	→
	Dried	4	3	→
	Canned	20	23	↗
	Frozen	4	7	↗
	VEGETABLES			
	Fresh	116	99	→
	Canned	39	44	↗
	Frozen	3	12	↗

- More women are working away from home. In 1947, 17 million women were in the national labor force; in 1964 there were 26 million.
- Urban population has increased markedly since 1947, farm population has declined by nearly one-half.
- Automobile ownership has increased about 125 percent since 1947.

How the Government Aids Marketing

Local, State, and Federal governments provide basic services that help agricultural marketing serve both farmer and consumer more effectively.

These government services are of four main kinds—those that regulate marketing, those that facilitate trading, those that aid specific groups of the economy, and research.

Regulatory Services

Protection of public health is the aim of some of the most important government services that relate to agricultural marketing. In the Federal Government, the Food and Drug Administration and the USDA are the agencies most actively concerned.

Local health officers guard the wholesomeness of food supplies and facilities. U.S. Department of Agriculture work in this field includes the inspection of meat and meat products and poultry marketed interstate or in foreign commerce.

A second kind of regulatory activity is the setting up and enforcement of rules of fair trading to protect producers, marketers, and consumers.

State and local agencies are responsible for much of this activity. For example, they enforce laws pertaining to standard weights and measures. Examples of U.S. Department of Agriculture service in this field are the administrative programs connected with the Packers and Stockyards Act and the Perishable Agricultural Commodities Act.

Regulation or prevention of monopolies is a third type of government regulatory service.

Facilitative Services

Various government services make it easier to transact business. Examples are the services connected with the standard monetary system, standard weights and measures, meat and vegetable grading, and the nationwide Federal-State market news.

Services To Aid Specific Groups

Both farmers and consumers are aided directly by special government marketing programs.

Price support operations and related soil-building or soil-saving programs account for most of the financial aid to farmers. Marketing orders or agreements for fluid milk, fruits, vegetables, and nuts also aid producers. The government takes part in these self-help farmer programs to insure that the agreements and orders are applied uniformly and equitably and operate in the public interest.

School Lunch and Commodity Distribution programs have dual goals—to strengthen weak spots in the national diet and to expand consumption of farm products.

The Food Stamp program expands the food-purchasing power of low-income families, enabling them to improve their diets. Operating through regular trade channels, it broadens the market for farm products and stimulates local economies by bringing in extra dollars.

Other specific government aids to marketing include: Provision of lower rates for certain kinds of business mail, rail and airline subsidies, building and maintaining highways used for transporting products by truck, and protective tariffs for some products.

Research

Since 1946 the Federal Government has increased its research into the technical and economic aspects of agricultural marketing. The broad aims of this research: To maintain and widen markets for U.S. farm products, to improve marketing efficiency, and to reduce costs of marketing.

Much of this Government research adds to or rounds out research by private agencies. It ranges from studies of the basic chemistry of foods and agricultural products—through studies of processing, storage, and handling—to studies of aspects that are important to consumers.

Research on the physical and biological problems in marketing agricultural products covers two broad areas—(1) market quality; and (2) transportation, facilities, and handling. This research deals with such matters as:

- Use of proper packages during handling, storage, and transportation.
- Preventing insect damage to products during marketing.
- Developing standards and tests for market quality of products.
- Improving transportation equipment.
- Developing better equipment, work methods, and plant layouts for handling products all the way from the farm to the checkout counter.
- Planning new or improved wholesale market facilities.

A sampling of the kinds of economic marketing research being done by the Federal Government is given below.

- Measurements of the potential markets for new products, new crops, and old products used in new ways—such as frozen concentrated citrus juices, potato flakes, dehydrofrozen fruits and vegetables.

- Evaluating public and private efforts to expand markets for agricultural products.

- Maintaining and improving basic data on supply and demand conditions affecting agricultural products.

- Analysis of the latest economic developments affecting supply and demand. Results of this research are published in outlook and situation reports that keep farmers, the trade, and the public informed.

- Economic analysis of foreign markets for U.S. farm products and of competition from foreign products in the United States and world markets.

- Studies of market structure and marketing costs. These look into farm and retail prices, marketing mar-

gins, transportation developments, changes in marketing firms, and changes in farmers' bargaining power.

- Special studies, such as those on milk price wars, direct versus terminal marketing of livestock, quality of cotton products, distribution of bakery products.

Marketing Agricultural Products Abroad

About 13 percent of total farm production was exported in 1947, about 17 percent in 1964. The value of these exports rose from \$4.0 to \$6.3 billion.

Today, the United States is a net exporter of agricultural commodities; that is, the value of exports exceeds the value of imports. The balance in our favor is growing.

A sizable part of our agricultural exports are Government financed—products sold or distributed abroad under terms of the Agricultural Trade Development and Assistance Act of 1954 (Public Law 480) and other aid programs. Most of the increase in value of agricultural

chart 16

U. S. agricultural exports

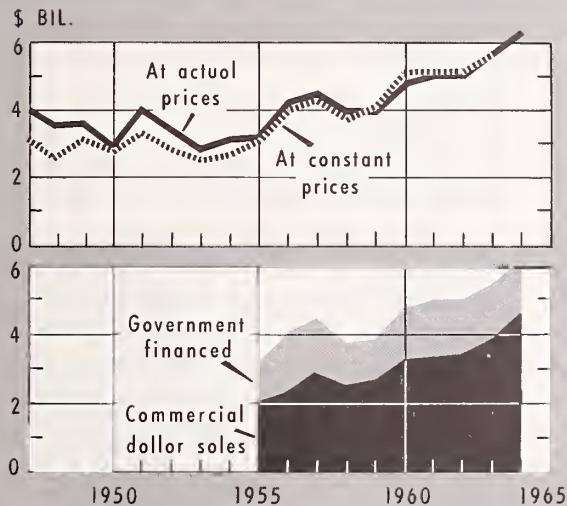
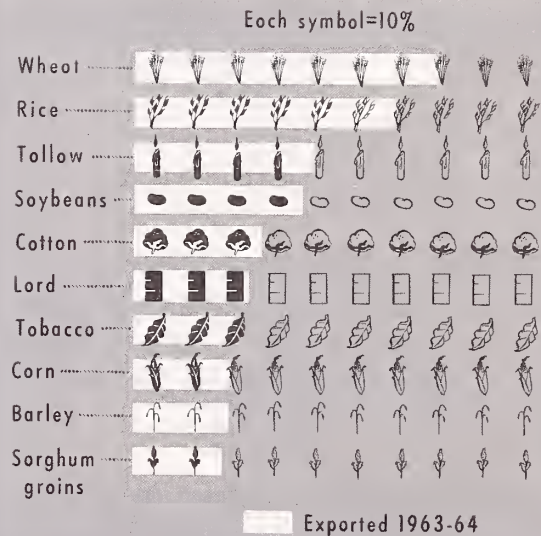


chart 17

Foreign markets for major farm products



exports since 1954 has been the result of increased commercial exports for dollars, some of which involved Government assistance to meet world market prices.

A Look at Food-Marketing Costs

What does it cost to market food? and why? How much are we paying for the many marketing services that have become commonplace since 1947?

Here are some of the answers.

The Total Bill

The national farm-food marketing bill more than doubled from 1947-49 to 1964. This bill includes all charges for marketing food grown on farms in this country to civilians in this country.

Main reasons for the increase:

- The volume of food marketed rose one-third.
- Marketing services increased by nearly one-half.

These services include more sorting and grading, trimming, packaging, processing, storage. Not all services increase cost to the consumer. Some, such as extra processing and packaging, may decrease costs by reducing waste and lowering shipping costs.

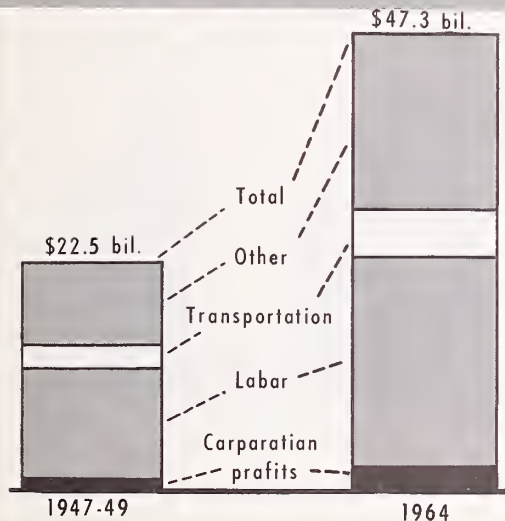
- Costs that marketing agencies must pay increased for many items. Total labor cost nearly doubled. Capital costs of new plants and equipment rose.

The chart at right shows components of the total marketing bill published regularly by USDA. Note that labor costs make up nearly half the marketing bill. Corporate profits make up about 6 percent.

Corporate profits of the various food marketing groups are generally down from the levels of the immediate postwar years. Food processors' profits as a percent of sales show an upward trend since 1952, but their profits as a percent of stockholders' equities have been nearly constant. These moderate levels of profits indicate that food costs could not be cut appreciably by a reduction in profits of marketing agencies.

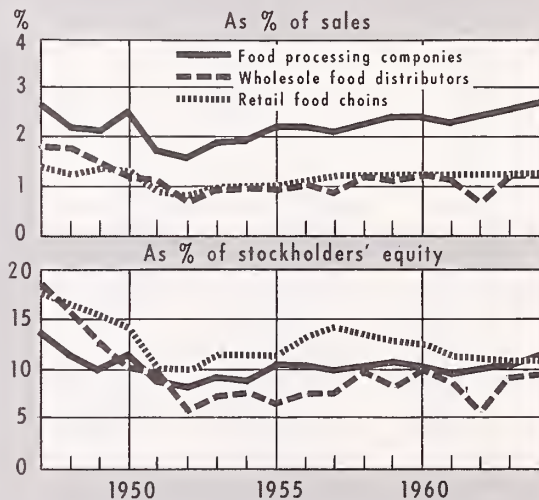
**chart
18**

**Farm food
marketing bill**



**chart
19**

**Profits of leading
corporations marketing
food products**



Marketing Spreads

Another measure of farm-food marketing cost is the difference between the retail price of a product and its farm value—its marketing spread.

USDA regularly calculates the marketing price spread for the Family Market Basket—a fixed quantity of farm foods of unchanging quality and type. In the Market Basket are average amounts of different kinds of farm foods bought per family in 1960–61 by urban wage-earner and clerical-worker families.

From 1947–49 to 1964 the marketing spread for the entire Market Basket rose 43 percent. Changes in the price spreads varied, however, for the different food groups in the basket.

For fats and oils, the spread decreased.

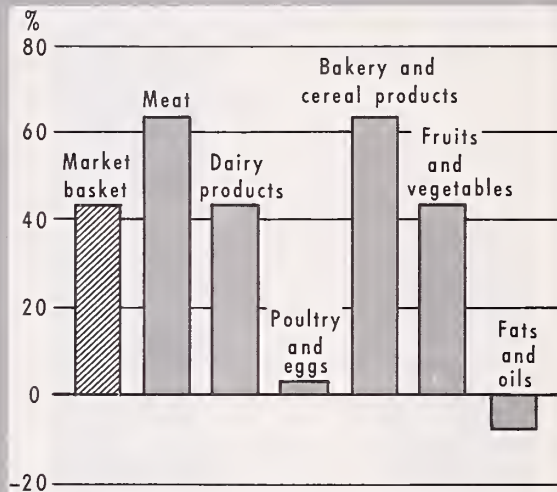
For poultry and eggs, the spread increased only slightly.

For meat and for bakery and cereal products, the spread increased more than average.

For dairy products and for fruits and vegetables, the spread increase was the same as the average.

**chart
20**

**Change in marketing
charges 1947-49
to 1964**



Marketing Efficiency

Food-marketing costs have not gone up as much as wages and other costs to the marketer. The reason: Increased marketing efficiency.

A main reason for increased efficiency has been the greater productivity of labor—the largest cost element in marketing. As chart 21 shows, food marketing has been more progressive than the total nonagricultural economy in adopting labor-saving techniques. Neither has matched the farmer's phenomenal increase in output per man-hour.

Cost to Consumers

Consumers in our affluent society spent less than 19 percent of their disposable income on food in 1964, compared with 26 percent in 1947-49.

This and other chief benefits of increases in farm and marketing productivity and of postwar changes in farming and marketing are shown in chart 22.

**chart
21**

**Growth in output per
man-hour**

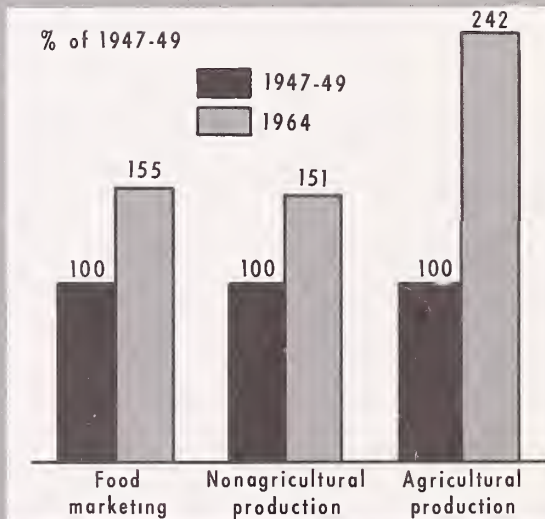


chart 22

Today's farms and markets provide consumers with foods....

- In greater abundance
- Of higher quality
- In more forms
- During more seasons
- At more convenient, attractive stores
- With consumer spending only 19% of take home pay



Tomorrow's Challenges

Tomorrow's marketing problems are today's concern for the research economist. Currently, marketing economists see three main kinds of problems on the horizon.

- *Need to continue productivity gains.*—It will become increasingly necessary to increase the productivity of marketing in order to improve overall economic growth and raise living standards.

- *Need to adapt to changes.*—Every segment of agricultural marketing must be ready to adapt to changes. Anticipated changes include: Increasing size and scale of all business; greater competition from nonagricultural products; and new or different market demands.

- *Need to improve the pricing system.*—We need a pricing system that will better coordinate production and marketing and provide adequate returns to both farmers and marketers for their investments and services.